



May 16, 2016

Questions for the Record

**Mr. Mitch Bainwol on behalf of the Alliance of Automobile Manufacturers
April 14, 2016 Subcommittee on Commerce, Manufacturing, and Trade Hearing
entitled “NHTSA Oversight”**

The Honorable Michael C. Burgess, M.D.

- 1. As vehicles become increasingly connected and communicate with other vehicles and surrounding infrastructure, what role will encryption play in those communications to protect the security and integrity of those messages? Who would have access to the encryptions keys?**

As new vehicle technologies and services emerge, the goal of automakers is to continue enhancing benefits to customers while respecting their privacy. This is why in 2014, the members of the Auto Alliance and Global Automakers developed Consumer Privacy Principles (Privacy Principles). Automakers are among the first industries to develop Privacy Principles to address consumer concerns about what data we collect, how we use it, and when/why data is shared, and to whom. These Privacy Principles have a strong lineage, building on Fair Information Practice Principles, Federal Trade Commission (FTC) guidance, the White House Consumer Privacy Bill of Rights, and the guidance of privacy advocates.

The most sensitive types of consumer information relate to geolocation (where the vehicle goes), driver behavior (such as vehicle speed or use of safety belts) and biometrics (physical or biological characteristics that identify a person). For each of these categories, the Privacy Principles require clear and prominent notices about the collection of such information, the purposes for which it is collected, and the types of entities with which the information may be shared. The Privacy Principles commit automakers to sharing this data with law enforcement or government only if required by a legal warrant or court order. The Consumer Privacy Principles are available to the public at www.automotiveprivacy.com.

The Privacy Principles help to guide automakers to protect consumers’ personal information, and are a floor from which automakers will continue to innovate. These are not the only activity involving technological advancements that play a role in the driving experience. For instance, vehicle-to-vehicle or vehicle-to-infrastructure technologies are based off of what is called Dedicated Short Range Communications (DSRC). These communications are one-way or two-way short-range to medium-range

wireless communication channels specifically designed for vehicles to communicate between each other and with infrastructure at a particular frequency. These communications occur every tenth of a second and are constantly changing. DSRC broadcast messages, like the Basic Safety Message, or intersection map and signal state messages, are not encrypted. There is, of course, a need to ensure privacy with DSRC technology, which is done in the design of the system. Along with the Basic Safety Messages, a certificate digitally signed by the off-board Security Credential Management System (SCMS) is added, so the receiver knows that the message came from a certified device, and the messages are signed with a private key stored in the vehicle in secure memory so that the receiver knows the message was unchanged from transmission. Technically, this is not encryption, but rather asymmetric cryptography. The information is not secret because a sender wants every other device close by to hear and use the information so that an accident can be avoided or traffic can be mitigated.

Privacy is achieved by not including any personally identifiable information in the transmissions, changing certificates frequently, and separating functions in the SCMS. Furthermore, DSRC communications are not stored in any location or within the vehicle. Data that is communicated is used for a brief time period by vehicles and infrastructure to provide short term information. Short term information may include a distance measurement used to determine time to a potential collision with another vehicle. The message is synthesized in the vehicle receiving it and a crash avoidance application may, in real time, send a driver a warning. After being sent, the sending vehicle erases that information and sends out new information 1/10 a second later. Similarly, after the information is received and, if needed, acted upon by the receiving vehicle, it too is erased. This information process continues to occur as the vehicle travels from one location to the other.

- 2. I understand that the recall completion rate for GM vehicles affected by the ignition switch recalls currently stands around 80 percent. What is GM doing to ensure that the remaining 20 percent of car owners affected by the ignition switch recall are notified and encouraged to get their vehicles repaired? Is GM having trouble identifying or finding the proper home addresses for car owners affected by the ignition switch recalls? If so, how is GM working to reach those individuals?**

It is our understanding that GM's ignition switch recall repair rate now stands closer to 90 percent but the company would be more equipped to answer questions related to their efforts. As in all recall campaigns, Alliance members are using multiple methods to reach consumers of affected vehicles. These methods range from the federally required sending of first class mail letters directly to vehicle owners, to innovative approaches such as the use of social media to send out overall service notices. Additionally, OEMs update their web sites to include notices when a recall has taken place and always direct consumers to safercar.gov so that they may check if their vehicle is under a recall.

Last year, the Alliance and Global Automakers commissioned a first of its kind recall completion rate study to determine the factors that cause consumers to either fix their recalled vehicle or not. Additional information on that study can be found on our web site at www.autoalliance.org. And to further highlight our commitment to increasing recall participation rates, the Alliance and Global Automakers recently sent dozens of letters to key stakeholders in the motor vehicle and auto insurance sector to underscore additional ways they can help inform their customers of open recalls via their auto insurance policy or when they register their vehicle.

Finally, the FAST Act included Section 24105 which established a pilot program for up to six states to notify consumers of open vehicle recalls at the time of vehicle registration. The Alliance and its member companies support this pilot program as a way of augment existing notification requirement to evaluate the feasibility and effectiveness of a state process for ensure that every driver is notified of a recall and that the recall work is performed as soon as possible at an authorized service center at no expense to the vehicle owner. In fact, in a recent letter to House and Senate Appropriators, the Alliance and Global recommended that the FY 2017 THUD Appropriations bill contain funding to support the FAST Act's pilot program.

3. Rigorous testing of autonomous vehicles is a critical part of certifying that these vehicles are ready for commercial use. Do we have the right regulatory framework in place to allow maximum research and testing of autonomous vehicles?

The issues surrounding the research, development, production, and the ultimate safe operation of driving automation technology are highly complex and rapidly evolving, but the eventual benefits are broad and significant. Recognizing all the benefits to consumers, automakers are working to bring driving automation technology to market as soon as possible.

Facilitation of the deployment and adoption of Advanced Driver Assist Systems (ADAS) from active safety systems to eventually fully automated technology starts with a nationally-applicable legal and regulatory framework that avoids a patchwork of state laws and regulations. It maintains current self-certification practices as well as the enforcement power of NHTSA. Alliance members are committed to bringing ADAS technology to market while improving safety and continue to work with NHTSA as it establishes the regulatory framework for such technology.

a. How could Congress work with NHTSA and the auto industry to facilitate more testing and research of advanced automotive technologies?

As was noted previously, the Alliance and its members support state efforts to improve and protect the safety of all road users but we are very concerned that a patchwork of potentially conflicting vehicle certification and performance regulations at the state level would be costly for consumers and stifle safety innovation.

A broadly adopted set of clearly defined levels of driving automation specified by SAE J3016 are extremely important because they provide a standardized framework for discussing and understanding technology capabilities, expectations, and driver roles across the spectrum of driving automation technology.

As NHTSA recently acknowledged in the Enforcement Guidance Bulletin for "Safety-Related Defects and Emerging Automotive Technologies," even without specific FMVSS requirements in place, broad enforcement authority to investigate, penalize, and potentially mandate recalls involving these new and emerging technologies is no different than its authority with respect to conventional motor vehicle components. Similarly, manufacturers have the same reporting and notification responsibilities with respect to any safety-related defects in these technologies.

- 4. Please provide an update on the Auto-ISAC, including current membership, any plan to expand membership, how often the ISAC meets and any plans to develop cybersecurity best practices and when they will be developed. Please also include how much information sharing is occurring between members of the Auto-ISAC and whether any vulnerabilities have been uncovered that were not previously known to certain ISAC members through the information sharing process?**

The members of the Auto Alliance and Global Automakers were instrumental in establishing the ISAC over the past year. Since the ISAC's establishment and it becoming fully operational in January 2016 it is now a standalone organization. The questions you posed would be best answered by the ISAC Executive Director Jon Allen (Allen.Jonathan@bah.com); ISAC Chair Tom Stricker (tom.stricker@toyota.com), or the Vice Chair Jeff Massimilla (jeffrey.massimilla@gm.com).

The Honorable Gregg Harper

- 1. The FAST Act requires manufacturers to include the name, description, and part number of components or components in its Part 573 report for defects or noncompliance, if a recall involves a defect in a specific component. Can you comment on how your member companies have been able to address the requirement of the passage of the Act?**

The Alliance and its member companies supported the inclusion of this provision into the FAST Act. Alliance member companies are complying with the law.

The Honorable John Sarbanes

- 1. I was a cosponsor of the ROADS SAFE Act and worked with my colleagues in the House to make sure that the Driver Alcohol Detection System for Safety, or DADSS, program was authorized as part of both MAP-21 and the FAST Act. I know that you have also supported the DADSS program. This is an important project as it has the possibility of eliminating drunk driving in America and saving over 7,000 lives each year according to estimates from the Insurance Institute for Highway Safety. Can you provide an update on the current status of the project? What is being done to accelerate this technology?**

Thank you for your support of the Driver Alcohol Detection System for Safety (DADSS) a public-private research program, which brings together the National Highway Traffic Safety Administration (NHTSA) and the Automotive Coalition for Traffic Safety (ACTS), which represents the world's leading automakers.

All parties involved share your commitment to getting this lifesaving technology ready for deployment as quickly as possible, and every effort is being made to do so. The technology behind the alcohol detection system is a new invention – which means there are a number of steps that must be taken to ensure that the technology is rigorously tested and validated and ready for consumers. After significant research, we have demonstrated that the DADSS concept works – we can measure blood alcohol levels in drivers passively. The DADSS team has made great progress, reducing the size of the breath-based unit by 85% and the touch-based unit by 93% from the original prototype sizes. However, more work is needed before the system is feasible for production and practicable. The team must and is continuing to further reduce the size and cost of the units; improve their speed, accuracy and precision; and conduct real world tests for reliability and durability. As the research continues, the team is focused on making sure the technology meets the strict Performance Specifications set related to precision, accuracy and reliability.

As part of the ongoing research, the breath-based and touch-based prototypes will be integrated into vehicles for a series of field tests, which will allow engineers to observe driver behavior in natural settings and thoroughly test the systems in real-world scenarios. The first of these multi-vehicle field operational trials is targeted to begin early next year.

